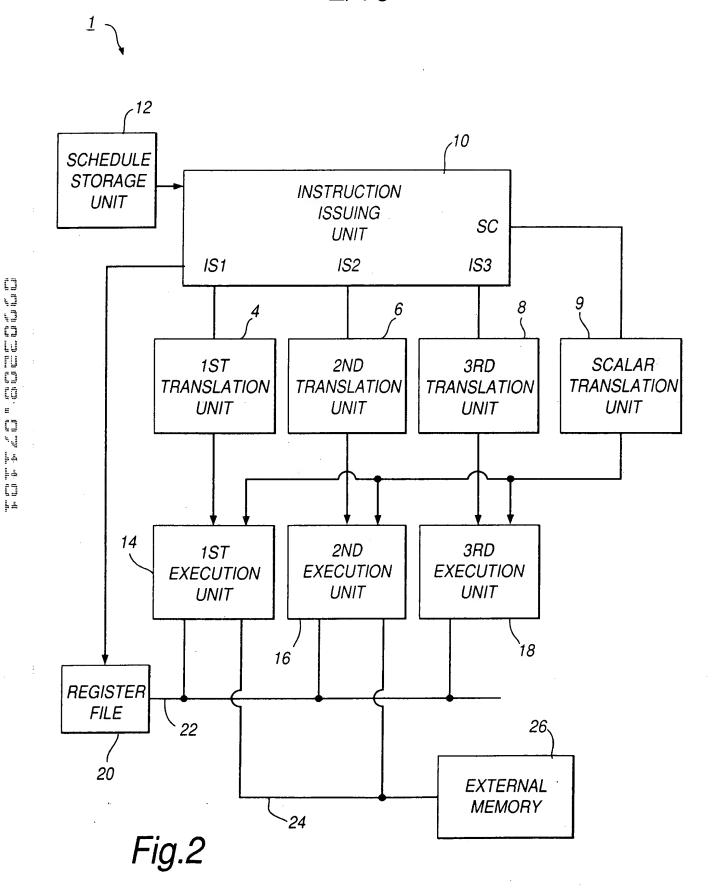


Fig. 1

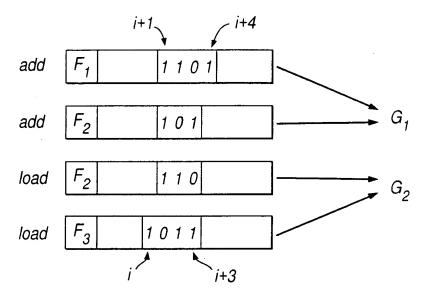
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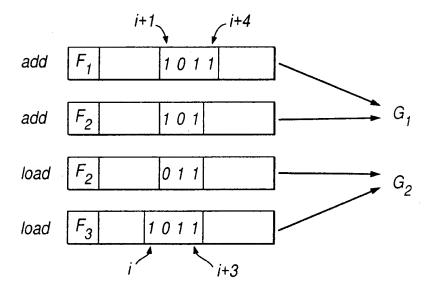
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*Fig.3(A)* 



*Fig.3(B)* 

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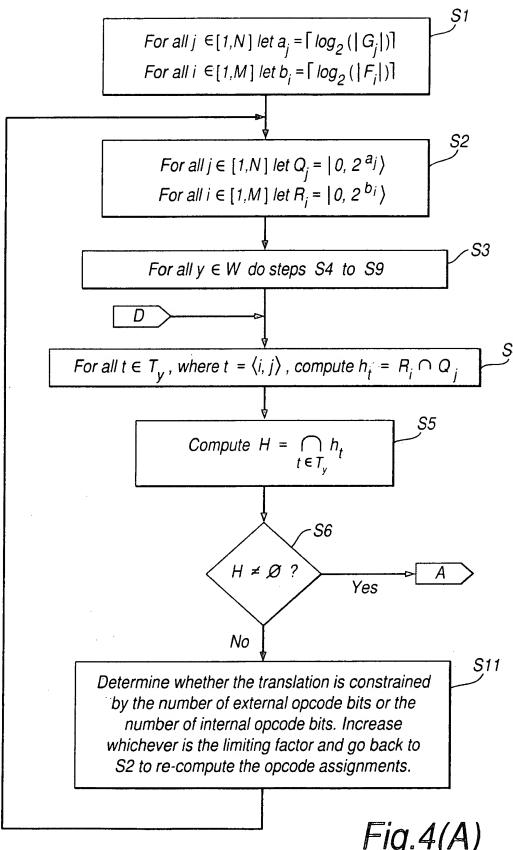
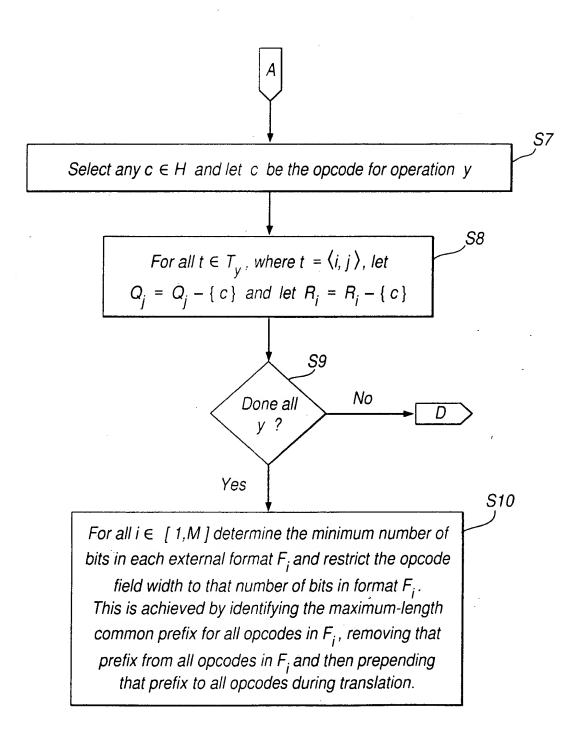


Fig.4(A)

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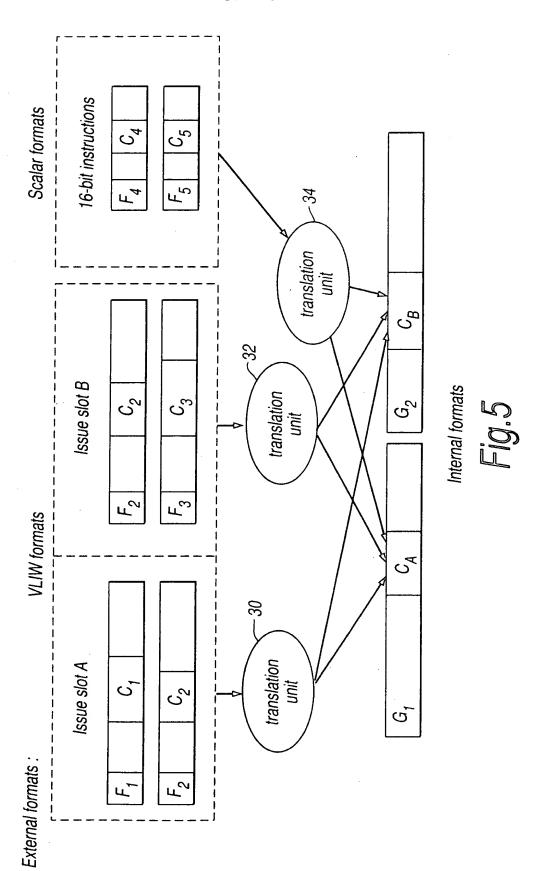


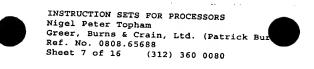


*Fig.4(B)* 

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		External formats		Ex	External formats (VLIW)				
Operation	Internal	(Sc.	alar)	Issue	slot A	Issue slot B			
,	format	F <sub>4</sub>	F <sub>5</sub>	F <sub>1</sub>	F <sub>2</sub>	F <sub>2</sub>	F <sub>3</sub>		
add	$G_1$								
auu	$G_2$								
or	$G_1$			14/					
Oi	$G_2$								
mul	$G_1$					,			
mui	$G_2$								
li	$G_1$								
"	$G_2$								
sub	- G <sub>1</sub>								
Sub	$G_2$								
rv	$G_2$								
div	$G_2$								

Fig.6



			l formats	External formats (VLIW)			
Operation	Internal	(Scalar)		Issue	slot A	Issue slot B	
	formats	F <sub>4</sub>	F <sub>5</sub>	F <sub>1</sub>	F <sub>2</sub>	F <sub>2</sub>	F <sub>3</sub>
add	G <sub>1</sub>	000	000	000	000		
auu	G <sub>2</sub> 000 000	-		000	000		
or	$G_1$						
or	$G_2$						
mul	$G_1$						
mui	$G_2$						
li li	$G_1$	_		,			
"	$G_2$				_		
sub	$G_1$						
Sub	$G_2$						
rv	$G_2$						
div	G <sub>2</sub>						

$$\begin{split} R_1 &= \{\,001,\,010,\,011\,\} \\ R_2 &= \{\,001,\,010,\,011\,\} \\ R_3 &= \{\,001,\,010,\,011,\,100,\,101,\,110,\,111\,\} \\ R_4 &= \{\,001,\,010,\,011\,\} \\ R_5 &= \{\,001,\,010,\,011,\,100,\,101,\,110,\,111\,\} \\ Q_1 &= \{\,001,\,010,\,011,\,100,\,101,\,110,\,111\,\} \\ Q_2 &= \{\,001,\,010,\,011,\,100,\,101,\,110,\,111\,\} \end{split}$$

Fig.7(A)

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Operation		1		External formats (VLIW)			
	Internal	(Scalar)		Issue	slot A	Issue slot B	
	formats	rate $F_4$ $F_5$ $i_1$ 000     000 $i_2$ 000     000 $i_1$ 001     001 $i_2$ 001     001 $i_1$ 001     001 $i_2$ 001     001	. F <sub>5</sub>	F <sub>1</sub>	F <sub>2</sub>	F <sub>2</sub>	F <sub>3</sub>
add	$G_1$	000	000	000	000		
auu	$G_2$	000	000			000	000
or	$G_1$	001	001	001	001		
OI .	$G_2$	001	001			001	001
mul	$G_1$					:	
mai	$G_2$						
li	$G_1$						
, , , , , , , , , , , , , , , , , , , ,	$G_2$					*	
sub	$G_1$						
300	$G_2$						
rv	$G_2$			1			
div	G <sub>2</sub>						·

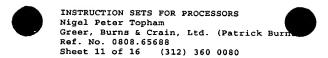
$$\begin{split} R_1 &= \{\,010,\,011\,\} \\ R_2 &= \{\,010,\,011\,\} \\ R_3 &= \{\,010,\,011,\,100,\,101,\,110,\,111\,\} \\ R_4 &= \{\,010,\,011\,\} \\ R_5 &= \{\,010,\,011,\,100,\,101,\,110,\,111\,\} \\ Q_1 &= \{\,010,\,011,\,100,\,101,\,110,\,111\,\} \\ Q_2 &= \{\,010,\,011,\,100,\,101,\,110,\,111\,\} \end{split}$$

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Operation		Externa	l formats	Ex	External formats (VLIW)				
	Internal	(Scalar)		Issue	slot A	Issue slot B			
,	formats	F <sub>4</sub>	F <sub>5</sub>	F <sub>1</sub>	F <sub>2</sub>	F <sub>2</sub>	F <sub>3</sub>		
add	$G_1$	000	000	000	000				
auu	$G_2$	000	000			000	000		
or	$G_1$	001	001	001	001				
O/	$G_2$	001	001			001	001		
mul	$G_1$	010	010	010	010				
mui	$G_2$	010	010			010	010		
li	$G_1$								
	$G_2$								
sub	$G_1$								
300	$G_2$								
rv	$G_2$								
div	$G_2$								

$$\begin{split} R_1 &= \{\,011\,\} \\ R_2 &= \{\,011\,\} \\ R_3 &= \{\,011,\,100,\,101,\,110,\,111\,\} \\ R_4 &= \{\,011\,\} \\ R_5 &= \{\,011,\,100,\,101,\,110,\,111\,\} \\ Q_1 &= \{\,011,\,100,\,101,\,110,\,111\,\} \\ Q_2 &= \{\,011,\,100,\,101,\,110,\,111\,\} \end{split}$$



			l formats	Ex	ternal for	mats (VLIW)		
Operation	Internal formats	(Scalar)		Issue	slot A	Issue slot B		
		F <sub>4</sub>	F <sub>5</sub>	$F_1$	$F_2$	F <sub>2</sub>	F <sub>3</sub>	
add	G <sub>1</sub>	000	000	000	000			
auu	G <sub>2</sub> 000 000		000	000				
or	$G_1$	001	001	001	001			
OI .	$G_2$	001	001			001	001	
mul	$G_1$	010	010	010	010		-	
mui	$G_2$	010	010			010	010	
lj lj	$G_1$	011			011			
"	$G_2$	011				011		
sub	$G_1$							
Sub	- G <sub>2</sub>			:	21			
rv	$G_2$							
div	$G_2$			*				

$$\begin{split} R_1 &= \{\,011\,\} \\ R_2 &= \{\,\,\} \\ R_3 &= \{\,011,\,100,\,101,\,110,\,111\,\} \\ R_4 &= \{\,\,\} \\ R_5 &= \{\,011,\,100,\,101,\,110,\,111\,\} \\ Q_1 &= \{\,100,\,101,\,110,\,111\,\} \\ Q_2 &= \{\,100,\,101,\,110,\,111\,\} \end{split}$$

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		External formats (Scalar)		Ex	ternal for	al formats (VLIW)			
Operation	Internal			Issue	slot A	Issue slot B			
	formats	F <sub>4</sub>		F <sub>2</sub>	$F_3$				
add	$G_1$	000	000	000	000				
add	$G_2$	000	000			000	000		
or	$G_1$	001	001	001	001	·			
O/	$G_2$	001	001			001	001		
mul	$G_1$	010	010	010	010				
mui	$G_2$	010	010			010	010		
li	$G_1$	011			011				
"	$G_2$	011				011			
sub	$G_1$								
300	$G_2$								
rv	$G_2$								
div	$G_2$								

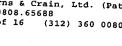
$$\begin{split} R_1 &= \{\,011,\,100,\,101,\,110,\,111\,\} \\ R_2 &= \{\,\,\} \\ R_3 &= \{\,011,\,100,\,101,\,110,\,111\,\} \\ R_4 &= \{\,\,\} \\ R_5 &= \{\,011,\,100,\,101,\,110,\,111\,\} \\ Q_1 &= \{\,100,\,101,\,110,\,111\,\} \\ Q_2 &= \{\,100,\,101,\,110,\,111\,\} \end{split}$$

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		External formats (Scalar)		Ex	ternal for	rmats (VLIW)			
Operation	Internal			Issue	slot A	Issue slot B			
,	formats	F <sub>4</sub>	F <sub>5</sub>	$F_1$	F <sub>2</sub>	$F_2$	F <sub>3</sub>		
add	G <sub>1</sub>	000	000	000	000				
adu	$G_2$	000	000			000	000		
or	$G_1$	001	001	001	001				
Oi	$G_2$	001	001			001	001		
mul	$G_1$	010	010	010	010				
mui	$G_2$	010	010			010	010		
li li	$G_1$	011			011				
"	$G_2$	011				011			
sub	G <sub>1</sub>		100	100					
Sub	. G <sub>2</sub>		100				100		
rv	$G_2$								
div	$G_2$								

$$\begin{split} R_1 &= \{\,011,\,101,\,110,\,111\,\} \\ R_2 &= \{\,\,\} \\ R_3 &= \{\,011,\,101,\,110,\,111\,\} \\ R_4 &= \{\,\,\} \\ R_5 &= \{\,011,\,101,\,110,\,111\,\} \\ Q_1 &= \{\,101,\,110,\,111\,\} \\ Q_2 &= \{\,101,\,110,\,111\,\} \end{split}$$

17.31 14.41 11... 6... 14.81 14.81 14.41 14.41



		External formats		External formats (VLIW)				
Operation	Internal	(Sc.	alar)	Issue slot A   Issu	Issue	slot B		
form.	formats	F <sub>4</sub>	$F_{\bar{5}}$	F <sub>1</sub>	F <sub>2</sub>	F <sub>2</sub>	F <sub>3</sub>	
add	$G_1$	000	000	000	000			
auu	$G_2$	000	000			000	000	
or	$G_1$	001	001	001	001			
or	$G_2$	001	001			001	001	
mul	G <sub>1</sub>	010	010	010	010		*	
mui	$G_2$	010	010			010	010	
li	G <sub>1</sub>	011			011			
"	$G_2$	011				011		
sub	$G_1$		100	100				
Sub	$G_2$		100				100	
rv	$G_2$						101	
div	$G_2$							
	-					<del></del>		

$$R_1 = \{011, 101, 110, 111\}$$

$$R_2 = \{\}$$

$$R_3 = \{011, 110, 111\}$$

$$R_4 = \{\}$$

$$R_5 = \{011, 101, 110, 111\}$$

$$Q_1 = \{101, 110, 111\}$$

$$Q_2 = \{110, 111\}$$

*Fig.7(G)* 

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		Externa	l formats	· Εχ	ternal for	mats (VL	IW)
Operation	Internal	(Scalar)		Issue	slot A	Issue slot B	
	formats	F <sub>4</sub>	F <sub>5</sub>	F <sub>1</sub>	F <sub>2</sub>	F <sub>2</sub>	F <sub>3</sub>
add	$G_1$	000	000	000	000		
auu	$G_2$	000	000	·		000	000
or	$G_1$	001	001	001	001		
	$G_2$	001	001			001	001
mul	$G_1$	010	010	010	010		
mui	$G_2$	010	010			010	010
li	$G_1$	011	*		011		:
"	$G_2$	011	,				
sub	$G_1$		100	100		·	
Sub	$G_2$		100			001	100
rv	$G_2$						101
div	$G_2$		110				110

$$R_1 = \{ 011, 101, 110, 111 \}$$

$$R_2 = \{ \}$$

$$R_3 = \{ 011, 111 \}$$

$$R_4 = \{ \}$$

$$R_5 = \{ 011, 101, 111 \}$$

$$Q_1 = \{ 101, 110, 111 \}$$

$$Q_2 = \{ 111 \}$$



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		External formats (Scalar)		Ex	ternal for	mats (VLIW)	
Operation	Internal			Issue	slot A	Issue slot B	
	formats	F <sub>4</sub>	<b>F</b> <sub>5</sub>	$F_1$	F <sub>2</sub>	$F_2$	$F_3$
add	$G_1$	00	000	000	00		
auu	$G_2$	00	000			00	000
or	$G_1$	01	001	001	01		
or	$G_2$	01	001			01	001
mul	$G_1$	10	010	010	10		
mur	$G_2$	10	010			10	010
lj.	$G_1$	11			11	:	
11	$G_2$	11				11	
sub	$G_1$		100	100		-	
Sub	$G_2$		100				100
rv	$G_2$						101
div	$G_2$		110		·		110

$$R_{1} = \{011, 101, 110, 111\}$$

$$R_{2} = \{\}$$

$$R_{3} = \{011, 111\}$$

$$R_{4} = \{\}$$

$$R_{5} = \{011, 101, 111\}$$

$$Q_{1} = \{101, 110, 111\}$$

$$Q_{2} = \{111\}$$